

## USE OF AMMONIA FOR ETCHING ORGANIC LOW-K DIELECTRICS

### ABSTRACT OF THE DISCLOSURE

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Method for etching organic low-k dielectric using ammonia, NH<sub>3</sub>, as an active etchant. Processes using ammonia results in at least double the etch rate of organic low-k dielectric materials than processes using N<sub>2</sub>/H<sub>2</sub> chemistries, at similar process conditions. The difference is due to the much lower ionization potential of NH<sub>3</sub> versus N<sub>2</sub> in the process chemistry, which results in significantly higher plasma densities and etchant concentrations at similar process conditions.

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